

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/654,765
Filing Date: September 4, 2003
Applicant: Paul S. Nordman
Group Art Unit: 1791
Examiner: Michael A. Tolin
Title: WINDOW SKIN PANEL AND METHOD OF MAKING
SAME
Attorney Docket: 7784-000630/US

Mail Stop Reply Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER UNDER 37 C.F.R. §41.41

Dear Sir:

The present reply brief is being submitted in response to the Examiner's Answer, received on October 14, 2009. It is believed that no fee is due with this submission, but if this understanding is incorrect, then authorization is hereby given to charge Deposit Account No. 08-0750 for the required fee.

INTRODUCTORY STATEMENT

The Board is urged to consider that it is a method of forming a "structural window panel" (Claim 1) and a "window skin panel" (Claim 13) that are being claimed in the

present application. The art that the Examiner has cited against the pending claims is mostly directed toward conventional glass, plastic or laminated glass/plastic window assemblies. These window assemblies are not believed to have sufficiently high structural strength so as to be considered “structural” elements or to form a “skin panel” for a component (such as a fuselage) of an aircraft. The only reference that is directed to forming a “composite” window is the Day et al. reference (U.S. Patent No. 5,665,450, hereinafter “Day et al.”), but this reference also appears silent on its window having sufficient strength to be considered a “structural” element or a “skin panel” for an aircraft. Moreover, the Examiner has not pointed to any teachings in the other cited references that would support any of the disclosed glass or glass/plastic laminate window structures in those references as having sufficiently high structural strength to be considered as “structural” elements. As such, it is respectfully but strongly asserted that one of ordinary skill in this art would *not* have been looking to the references that the Examiner has used for any teachings concerning forming a window panel that will have suitable strength to form a “structural” component.

ARGUMENT

On Page 9, section 10, of the Examiner’s Answer (hereinafter the “Answer”), the Examiner has reiterated that, in his opinion, the subject matter of claims 1, 3, 4, 7 and 9-12 would be obvious in view of the combined teachings of **six references**, those being U.S. Patent No. 5,665,450 to Day et al. (hereinafter “Day et al.”), U.S. Patent No. 5,885,714 to Demeester (hereinafter “Demeester”), U.S. Patent No. 4,793,108 to Bain et al. (hereinafter “Bain et al.”), U.S. Patent No. 3,081,205 to Shorr (hereinafter “Shorr”), U.S. Patent No. 5,500,272 to Padden (hereinafter “Padden”), and U.S. Patent No.

3,534,004 to Luvisi (hereinafter "Luvisi"). Again, the Examiner has apparently taken the position that simply because an isolated element of a claim is disclosed in a given reference, it is perfectly appropriate to combine the teaching of that particular reference with a different reference that discloses a different, isolated feature. Again, it is respectfully submitted that the Examiner has completely failed to point to any technical reasons that **would have suggested the desirability or motivated one of ordinary skill in this art** to combine the teachings in the manner that the Examiner has done. The Examiner's "reasoning" given in the Answer and in the Final Office Action amount essentially to merely conclusory statements as to why it would have been obvious to combine the teachings of these six references.

For example, consider just the combination of Padden and Day et al. There is not the slightest suggestion, deficiency or statement in either of these references that would have clued in one of ordinary skill in this art to combine their teachings as the Examiner has done in this instance, and the Examiner has not been able to mention a single reason **why** combining them would have been obvious to one of ordinary skill. In essence, the Examiner is simply saying because a first isolated feature is shown in one reference, and a second isolated feature is shown in a second reference, and both references are in the same general field of art, that such a condition automatically makes it obvious to combine the features of the two references. This is simply not the law of obviousness.

A general relationship between the fields of the prior art references is not sufficient to establish the required "suggestion" or "motivation". Interactive Techs., Inc. v. Pittway Corp., Civ. App. No. 98-1464, slip op. at 13 (Fed. Cir. June 1, 1999)

(unpublished), cert. denied, 528 U.S. 1046 (1999). There must be some **teaching, motivation** or **desirability** to combine the prior art references. See e.g., C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352 (Fed. Cir. 1998) (emphasis added). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). In In re Fritch, the CAFC stated:

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosure disclosures in the prior art to deprecate the claimed invention.

Id. at 23 USPQ2d 1784.

At least with respect to Day et al. and Padden, the Examiner has not identified any "**teaching**" that would have made it apparent, simply from reviewing either of these references, that it would be desirable to combine the teachings of both. Day et al. is utterly silent on the possibility of incorporating a metallic, peripheral frame structure into its composite window. If this was such an obvious thing to do, then the possibility of such an alternative application would likely have been at least peripherally mentioned in Day et al. Likewise, there is no suggestion in Padden that its teachings could be employed in modifying a **composite window** structure, such as shown in Day et al., to include a metal interlayer, such as provided in Padden, in order to produce a structural composite window. It is noteworthy that this alternative application of the Padden et al. technology is not even peripherally mentioned or suggested in Padden.

As far as **motivation** on combining the teachings of these references, the Examiner has not pointed to any specific factor that would have led one of ordinary skill in this art to be motivated to combine the teachings of Padden (to just a composite structural panel) and Day et al. (to just a composite window). The Examiner makes the statement on page 4, lines 5-9, of the Answer that:

Day differs from the claims in that there is no teaching of interleaving the prepreg between a plurality of metal sheets which form a frame structure wherein the metal sheets define an opening. However, it is generally well known in the art of aircraft window manufacture to provide an embedded reinforcing material around the periphery of a window to provide improved strength and rigidity.

The Examiner then cites additional references, such as Demeester, to support this point. However, the Examiner has not pointed to any factor, apparent from the Day et al. and Padden references, or even from Demeester (or Shorr or Bain et al.), that would have **motivated** one of ordinary skill in this art to combine the teachings of these references as the Examiner has done. Just because using some type of metal frame element may be known in the conventional window (i.e., glass and/or plastic) art, this does not explain how, or why, one skilled in this art would have been motivated to combine the teachings of a patent dealing strictly with a composite window (Day et al.) with those of a patent dealing strictly with a composite structural panel (Padden). One of ordinary skill in this art examining Day et al. would be provided with no shortcoming, deficiency, etc. that would have motivated him/her to begin examining other art involving the use of a metal interlayer with a composite window. And the same is true with Padden; nothing in Padden would have *motivated* one of ordinary skill to seek out how one might employ the metal interlayers of Padden's composite structural panel in a

composite window application, where visual transparency is a central requirement of the product.

Finally, the Examiner has given no specific reason as to why one skilled in this art would have seen the **desirability** of combining the teachings of Padden and Day et al. to produce the claimed subject matter. Certainly, once one examines the present application, one can readily see the desirability of combining the isolated features of Padden, Day et al., and the other references the Examiner has cited. But the Examiner cannot point to any specific reason, from the references themselves, other than to preface each of his conclusions with a statement such as “*It is generally well known in the art of aircraft window manufacture to . . .*.” In fact this phrase is repeatedly used throughout the final office action and the Answer whenever the Examiner needs to demonstrate specifically how or why it would have been obvious to use the teaching of a specific reference in connection with the teaching of some other reference. There is simply no shortcoming or deficiency in either Day et al. or Padden that would have highlighted the **desirability** of combining the teachings of these two patents together to help produce the claimed subject matter, let alone combining their teachings with those of the Shorr, Demeester and Bain et al. references.

It should not be ignored that the Shorr, Bain et al. and Demeester references involve generally conventional window construction materials such as glass, plastics, etc., rather than composite materials. All would also appear to require a conventional (and typically heavy), separate frame structure to attach to the windows, as would the Day et al. window. The claimed method of producing a composite window as recited in the pending claims enables a window to be produced that can be secured to an aircraft

fuselage without the heavy metallic frame structure (sometimes known as a “doubler”) that the Shorr, Bain et al. and Demeester references would appear to require. This is a significant advantage because it enables the weight of an aircraft fuselage to be significantly reduced, as well the cost of manufacture of the aircraft.

Finally, the Board will note that none of the Bain et al., Shorr and Demeester references deal with composite structures or methods for forming a composite structure. Moreover, the Examiner has not identified any specific suggestion in any of these references to apply their teachings to a method of forming a composite structure where the fibers of the structure and the resin being used having matching indices of refraction. Again, the Examiner merely cites isolated elements of each of these references and concludes that since the use of an isolated element (e.g., a metal reinforcing element with a plastic window, such as shown Shorr) is known in the art, that such a teaching would have automatically made it obvious to combine the teaching with the disclosures of the Day et al. and Padden references. Again, the statements that the Examiner has made in the Answer about the obviousness of combining the isolated teachings of these references are really nothing more than **conclusions**, rather than specific reasons **why** one of ordinary skill would have been motivated (or found it desirable) to combine the isolated teachings of these references with those of Day et al. and Padden.

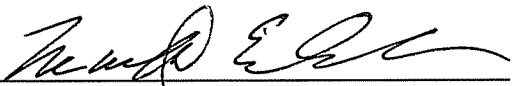
Conclusion

It is respectfully submitted that the Examiner's reasoning in both the Final Office Action, as well as the Examiner's Answer, as to why it would have been obvious to

combine the cited references, essentially amounts to nothing more than mere conclusory statements. These conclusory statements should not be found to be satisfactory substitutes for genuine reasons as to why one of ordinary skill in this art would have been motivated to combine the teachings of the cited references as the Examiner has done in this instance. It is submitted that the Examiner has essentially combined isolated elements from six different references, using the claims of the present application as a "roadmap", to construct the rejections using hindsight. For these reasons, the Board is respectfully requested to withdraw the rejections of all of the pending claims and to order the present application passed to allowance.

Respectfully submitted,

Dated: Dec. 14, 2009

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